

**WHAT IS CLAIMED IS:**

1. An online music-data-providing system via a Bluetooth headset, comprising:

5 a music-data-providing server for providing music data on line through a network;

a mobile communication system connected to the network;

a mobile station for wirelessly accessing the mobile communication system, and performing the Bluetooth protocol for short range links; and

10 a Bluetooth headset installed in a vehicle, having a Bluetooth function for performing the Bluetooth protocol, for performing short range radio links by the Bluetooth protocol to the mobile station, receiving the music data from the music-data-providing server through the mobile station, reproducing them, and outputting them.

2. The system of claim 1, wherein the Bluetooth headset comprises:

15 a Bluetooth communication unit for performing short range radio links by the Bluetooth protocol to the mobile station;

a decompressor for decoding the music data received from the mobile station through the Bluetooth communication unit, and decompressing them;

20 an audio output unit for processing the music data decompressed by the decompressor, reproducing them, and outputting them so that a user may listen to them through a plurality of speakers;

a voice coder, comprising a microphone for receiving an external voice and outputting a corresponding voice signal, for processing the voice signal output through the microphone and outputting the same; and

25 a controller for controlling the Bluetooth communication unit, the

decompressor, the audio output unit, and the voice coder to control the whole operation of the headset.

3. The system of claim 2, wherein the music-data-providing server provides streaming music data and general music data, and the decompressor  
5 determines types of the music data provided by the music-data-providing server to perform a decompression operation.

4. The system of claim 3, wherein the decompressor decompresses the music data in real-time while receiving the music data from the mobile station and outputs them to the audio output unit when the music data are streaming  
10 music data, and the decompressor decodes the music data and decompresses them after the music data are completely transmitted from the mobile station when the music data are general music data.

5. The system of claim 4, wherein the decompressor comprises:  
a first decryptor for decompressing streaming music data;  
15 a decoder for decoding general music data; and  
a second decryptor for decompressing the music data decoded by the decoder.

6. The system of claim 2, wherein the audio output unit comprises:  
a D/A converter for converting the music data decompressed by the  
20 decompressor into analog signals; and  
an amplifier for amplifying the analog signals output by the D/A converter and outputting them to the speaker.

7. The system of claim 1, wherein the mobile station comprises:  
a wireless transmitting and receiving unit for receiving the music data  
25 from the music-data-providing server through radio links to the mobile

communication system;

a user interface for receiving a user instruction, outputting it, and displaying predetermined information to the user;

a Bluetooth communication unit for performing short range radio links  
5 by the Bluetooth protocol to the Bluetooth headset; and

a controller for controlling the wireless transmitting and receiving unit, the user interface, and the Bluetooth communication unit to control the whole operation of the mobile station.

8. The system of claim 1, wherein when an external telephone call  
10 request is provided to the mobile station while the Bluetooth headset receives predetermined music data from the music-data-providing server and reproduces them, the Bluetooth headset temporarily or completely stops reproducing the predetermined music data, and performs a hands-free function on the mobile station.

15 9. The system of claim 8, wherein the temporarily stopped music data are reproduced again after the external telephone call is finished.

10. The system of claim 1, wherein when an external voice call access request is provided to the mobile station while the Bluetooth headset receives predetermined music data from the music-data-providing server, the Bluetooth  
20 headset temporarily or completely stops receiving the predetermined music data and performs a hands-free function on the mobile station.

11. The system of claim 10, wherein the temporarily stopped music data are received again after the external telephone call is finished.

12. The system of claim 1, wherein the Bluetooth headset may call  
25 another Bluetooth headset located in the vicinity of the Bluetooth headset.